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THOMAS G. NEWMAN, EDITOR.

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EDITORIAL BUZZINGS.

Let those Who Think that bees will take glucose and put it in the surplus apartment of the hive, so as to be parties to a fraudulent transaction, just try them now. They will not touch it even for food, as long as honey is to be gathered from the flowers. Those who assert that bees will take such stuff when honey is to be had, are ignorant of the habits of the bee.

Mr. E. C. Jordan is dead. On page 339 we stated that Mr. Jordan was bitten on the hand by a pet squirrel. The swelling made amputation necessary. It resulted in death on July 15. He was 66 years of age. He was buried on Tuesday; the Rev. Mr. Dame, of the Episcopal church of Winchester, Va., officiating. He was a generous-hearted brother—always ready to help the needy, and to administer substantial comfort to those in distress. He is greatly mourned by the whole community, and all who knew him far and near. We condole with the widow and family in their bereavement.

The Failure of the Honey Crop in Southern California, this season, is a subject of much discussion in that region.

The Pomona *Progress* publishes reports from the bee-ranches on the mountain sides throughout Los Angeles, San Bernardino and San Diego counties. It is found that even less than one-seventh of an average honey supply will be had in this region this year.

Several bee-ranches which usually have 100,000 pounds of honey each year, will not have 10,000 pounds this year. The general opinion as to the cause of the failure of the crop, is that the heavy rains, early last spring, started the blossoming of the sage, which did not secrete the usual quantity of honey because of the cool nights and damp days for three weeks in succession.

Showing their Colors.—It is encouraging to notice the enthusiasm that is being kindled in favor of the National Bee-Keepers' Union, since the decision in the Arkadelphia case. Mr. B. B. Lee, Manning, Iowa, on July 18, 1889, writes as follows:

I take great pleasure in becoming a member of the Bee-Keepers' Union since its most noble defense in the Arkadelphia case. It is true, "In union there is strength," and I think all bee-keepers should come to the front and support liberally the defender of our business. I have 54 colonies of bees doing quite well.

Mr. R. McKnight, of Owen Sound, Ont., on July 20, 1889, writes thus:

Enclosed please find a dollar for membership fee of the Union. Hitherto I have looked upon it as having no claims upon my support; believing it to be a kind of selfish combination somewhat akin to Trade's Unions—to which I am opposed. Indeed, I scarcely glanced at what was printed relating to it, until that masterly defense in the celebrated Arkadelphia case appeared in the AMERICAN BEE JOURNAL a week ago. *That defense is worth a dollar to every bee-keeper in the land.* The judgment that followed it established a *precedent of great importance* to bee-keepers, and will probably be quoted in the courts through generations to come.

Having once had the honor of defending the industry in a "mock trial" on the "high seas," the defense of the Union's eminent counsel was especially interesting to me. Had the pamphlet containing it been in my possession then, what a reputation I might have made for myself as an amateur lawyer among my fellow passengers, from the product of another man's brains.

Brother McKnight ought to have carefully read the printed matter emanating from the Union before concluding that it was a selfish organization akin to Trade's Unions! Such a Union as that could not have enlisted our energies; but we have given them in unstinted measure to the Union for the defense of our pursuit. It is a pleasure to see that our efforts as Manager are being appreciated. Every bee-keeper who is worthy of the name, should now, without delay, become a member of the Union, just to show on which side he or she belongs. What the Union has already done is a guaranty for the future. Reader, if you approve of its acts, send the membership fee (one dollar only), and be enrolled among those who have borne the burden so far, and, like the Royal Huzzars, "have never been beaten."

The Weather in Massachusetts is thus described by Henry Alley, of Wenham, Mass., on July 24, 1889:

We have the poorest weather for queen-rearing—rain all the time. When no set storm is in progress, then we have almost daily showers; each one giving from one to two inches of rain. Everything in the apiary is wet, and as nasty and uncomfortable as can be.

An Entrance Regulator, made of tin, with two slides, the whole to be tacked on the front of the hive, comes from H. O. Kruschke, Deuster, Wis.

A Full Crop of Honey is generally reported, but there are localities where the crop is *very small*, and others where "no honey so far" is the report, averring that it is "the poorest season since 1866," etc. Truly our country is a large one, and the climatic conditions are as varied as any could desire. New honey is now being received in all the metropolitan honey markets. See new reports in this issue.

Since the above was written, the appended letter has come to hand from Mr. W. D. Wright, of Altamont, N. Y., and dated July 24, 1889. He says:

FRIEND NEWMAN:—Do not cry "large honey crop" too loud. Undoubtedly there has been a good yield in some of the Western States, but in this section, we "got left" on white honey. Basswood and clover blossomed profusely, but the weather has been almost continually cool and wet, so that bees could not do much. They swarmed moderately this season. I have not taken off a pound of surplus honey yet, and have but little anywhere near ready to take off. The prospects for buckwheat are not extra.

I am glad to hear of the continued success of the Union. Why do not more bee-keepers support it?

Our correspondents in the Northwest have simply informed our readers about the honey crop in their localities, and stated that they had a good crop, so far, with excellent prospects for a good fall yield. In other localities, where the crop did not materialize, bee-keepers generally did not report. Now they are beginning to speak out, and we need this state of affairs to bring in such reports. We want all the facts in regard to the honey crop, in order to determine its value and importance.

Doolittle's Methods of Queen-Rearing, as detailed in his book, are being tested in many apiaries this season, but the main experiments will be made next year. Concerning this matter, Mr. Doolittle remarks as follows on July 20, 1889:

You will remember that I mentioned in my book, of having a desire that the plans which I have given may be improved upon, and bee keepers led out to a wider plain than any heretofore enjoyed. It is now evident to me that at times of scarcity in the forepart of the season, or in localities where honey comes in very slowly during May, June and July, that the plan as given in my book for getting queens fertilized, will not always work; but where honey comes in with a rush, as it does with us in basswood, and perhaps at the end of the season in all localities, it is all right; for I am now having the same success in getting queens to laying over a queen-excluding honey-board that I formerly had, and I doubt not that this will continue to the end of the season. Honey from basswood has not come in so plenty as in former years, yet the plan works equally well.

Our honey crop will be light in this locality, for the basswood is nearly done, and I have not taken off 10 pounds of honey. I hope that teasel may help us out a little.

One-Third of a Crop is all that is reported by G. M. Doolittle, of Borodino, N. Y., and he adds: "The honey season is over now in this section." We are sorry to hear such a discouraging report.

GLEAMS OF NEWS.

Why Bees Desert their Hives.—The inexperienced often ask why bees desert their hives. The following from an exchange will give some of the reasons in detail:

When bees swarm during a hot day they get very warm with the excitement and exercise, and sometimes the sun shines directly on the cluster. If they are then put into a hive that has stood in the sun, and has but little ventilation, who can blame them if they leave it and seek cooler quarters? If a newly hived swarm is left in the sun, it will desert the hive.

I once had a large swarm desert its hive the next morning after hiving. When it was hived it was placed in the shade, but the morning after was very warm, and the sun shone directly upon it, when it came out and left without clustering. I once hived the same swarm four consecutive days; each day they came out and clustered. At last I put them into a different hive, and they stayed all right. On examining the hive that they had deserted, I found it to be a clean, new hive, but the entrance was so small that a drone could enter with difficulty; therefore it was evident the swarm deserted rather than suffocate for want of air.

A bee-keeper was once puzzled to know why all his swarms deserted, as they were put into clean, new hives. On investigating, he ascertained that his new hives had the odor of kerosene; they had been manufactured during the winter and stored in the back-room adjoining his grocery, where were stored barrels of kerosene and other supplies, and the hives had imbibed these odors. The smell of kerosene is very distasteful to bees; I drive off robbers when they are attacking a hive by rubbing it over all places of attack, when they leave quick.

Hives that have been used, and the combs left to be eaten up with moths, should be thoroughly cleansed. When a colony dies from any cause, I prefer to cleanse the hive thoroughly, and rinse with boiling water.

Hives accumulate dust while standing, and before I put in a swarm I rinse it out with cold water, which freshens and cools it. If a swarm is put into a clean hive and properly shaded until it is well established, it will seldom desert.

The Nameless Bee-Disease.—Letters are coming in almost constantly, complaining of an unknown disease which is affecting the colonies. The symptoms given are always identical to the symptoms given in the A B C book, under the head of "Nameless Bee-Disease." It is pretty evident that this trouble is getting to be more and more common. Fortunately, however, it is not a serious one. The removal of the queen, so far as we have ever known, always effects a cure. For the benefit of a good many who do not know how to recognize the disease, we give the symptoms here: The bees have a swollen appearance—that is, the abdomen is distended. The fuzz is entirely worn off, and the bee itself has a black, shiny appearance, very much unlike a healthy bee. And just as soon as they become a burden to the colony the healthy ones boost them out of the entrance, where they may be seen crawling around in the grass, as if equally desirous of ridding the colony of their miserable presence. You will find quite a good many bees, doubtless, dead at and around the entrance—bees that have died from this trouble. We make this statement so that we may be saved the trouble of answering correspondents.—*Gleanings.*

Mailing Bees to Canada.—We are requested to print the order from the Post-Office Department, relative to the transmission of "queen-bees and their attendants" to Canada. Here it is:

POST-OFFICE DEPARTMENT,
OFFICE OF FOREIGN MAILS,
WASHINGTON, D. C., July 14, 1888.

The Canada office having assented to the proposition of this Department to admit to the mails exchanged between the United States and Canada, packages of Queen-Bees and their attendant bees, when so put up as to prevent injury to those handling the mails, while at the same time allowing an easy verification of the contents; packages of Bees will hereafter be entitled to transmission by mail to Canada, provided they conform to the conditions prescribed for them in the domestic mails of this country; and similar packages received in the mails from Canada should be promptly forwarded to their destinations and delivered to addresses.

By direction of the Postmaster General,
NICHOLAS M. BELL,
Sup't. of Foreign Mails.

Of course these packages are subject, upon their arrival in Canada, to all the Canadian customs, regulations relative to importations from the United States. But of these we are not advised, except to know that bees, like all animals for breeding purposes, are not subject to duty. Perhaps D. A. Jones & Co. can enlighten our correspondent as to the wording of such regulations. We have asked them, by private letter, to do so.

The Hancock County Fair will be held at Greenfield, Ind., Aug. 20 to 23, inclusive, 1889. Premium lists can be obtained of the Secretary, Chas. Downing, of Greenfield, Ind. Mr. A. Tyner, who intends to make an exhibit, sends us the list of premiums, which, though not very extensive, are as follows:

Crate of comb honey in the most marketable shape, and not less than 20 lbs.	$2 00	$1 00
Two dozen packages of extracted honey, in the most marketable shape, not less than 20 pounds	2 00	1 00
Largest display of honey of all kinds, the product of one apiary, present season, including all entries	5 00	2 00
Largest exhibition of bee-keepers' implements and supplies	Diploma.	
Most complete plan for wiring frames by hand, and placing foundation in or on the same	Diploma.	
Surplus arrangement for taking comb honey	Diploma.	
Bee-hive	Diploma.	
Display of appliances and fixtures in actual use, any one apiary	2 00	1 00
Five pounds of beeswax	75	50

Cure for Insomnia.—A Swedish servant-maid, finding that her mistress was troubled with sleeplessness, told her of a practice of the people of her country who were similarly afflicted. It was to take a napkin, dip it in ice-cold water, wring it slightly and lay it across her eyes. The plan was followed, and it worked like a charm. The first night the lady slept four hours without awaking, something she had not done before for several months. At the end of that time the napkin had become dry. By wetting it again she at once went to sleep, and it required considerable force to rouse her in the morning.—*Selected.*

Why Bees Destroy the Brood.—The New York *World* has this to say about the spring weather, the honey crop, and why bees sometimes destroy their brood:

The season of 1889 opened very bright for bees, and the general prophecy was "a good honey season," but with the middle of May came a change of weather, with cold rains and frosts, which are very damaging for the bees at that season of the year. The results have been that instead of the bees storing honey, bee-keepers have quite generally had to feed their bees to keep them from starving; many colonies having starved when not cared for; especially swarms which came out before the cold weather, as they did in many places.

The first signs that a colony is getting short of honey in the breeding season, is to find the drones being killed off. If they are not fed, they soon tear the drone-brood from the cells, and after having sucked all the juices out of it, the remnant is cast on the alighting-board. When bees get so short of honey as to do this, brood-rearing ceases almost entirely, and the apiarist is very short-sighted indeed that allows his colonies to get in this condition, for the brood which is then being reared is to make the bees which are to gather the honey.

If the bees are not fed, and the weather still continues to be bad, the bees next treat the worker-brood in the same way they did the drone-brood; soon after which all starve, although the bees can be revived by pouring warm honey or syrup on them, after nearly all of them have become so near dead that they can scarcely move. The bees may be worth saving if they are found in this last condition, but to think of getting any surplus honey from that year is out of the question.

New Posters for the AMERICAN BEE JOURNAL, printed in two colors, have just been printed, and will be sent free to all who can use them. They are very handsome, and will "set off" an exhibit at Fairs. It will tell Bee-Keepers how to subscribe, for "Subscriptions Received Here" is quite prominent at the bottom.

We will also send sample copies of the BEE JOURNAL, for use at Fairs, if notified a week or ten days in advance where to send them.

Another Opinion to be put upon record concerning the Doolittle book, is the following from the *Practical Poultryman*, the apiarian department of which is conducted by that excellent apiarist, Mr. Willis M. Barnum. He says:

"Scientific Queen-Rearing, as Practically Applied," is the title of a new bee-book by Mr. G. M. Doolittle, that veteran among bee-keepers, who has made the *practical* side of bee-keeping his hobby for more than twenty years. Probably no other one person has written so much upon the subject of bee-keeping as this prince of bee-keepers! The book is nicely gotten up, and details Mr. Doolittle's method of rearing queens according to Nature's way. The price is $1.00, and it is published by Messrs. T. G. Newman & Son, Chicago, Ills.

Babies of the White House.—These are the bright faces that interest us most in this week's *Frank Leslie's Illustrated Newspaper*. But which is Baby McKee?

Queen of the Flowers.

Beautiful queen of the garden,
The lovely, blushing rose,
Drinking the morning dewdrops,
As the night draws to a close.

Wafting the delicate perfume,
Through the summer air,
Beck'ning the *honey-bee* to you,
In its roaming everywhere.

Peonies, pansies and tulips,
"Rich as the crown of a king;"
Hyacinths, dahlias and snowdrops—
But none like the rose—sweet thing.

—*Mrs. B. Briggs, in Western Rural.*

QUERIES and REPLIES.

Changing Worker Foundation Cells into Drone-Cells.

Written for the American Bee Journal

Query 645.—Do worker bees ever make worker-foundation cells into drone-cells?—O.

Yes.—C. C. MILLER.

Yes.—H. D. CUTTING.

Yes, a few.—EUGENE SECOR.

Yes, but not often.—R. L. TAYLOR.

I do not know.—MRS. L. HARRISON.

I have known them to do so.—J. M. SHUCK.

Not that I have ever noticed.—J. M. HAMBAUGH.

Not unless the cells are bruised in some way.—P. L. VIALLON.

No, I have never known them to do so. Neither have I ever heard of such a case.—WILL M. BARNUM.

They frequently do, particularly in case the foundation cells should get out of shape by a sag.—J. P. H. BROWN.

Not that we know of, unless it stretches or sags, and the cells become larger by that means.—DADANT & SON.

No, not in the central portion of the sheets of foundation, at least.—G. L. TINKER.

If there is no drone-comb in the hive, they will build a few drone-cells if they have to do it on worker-foundation.—M. MAHIN.

Not often. They do rarely cut down worker-comb, and build drone-cells.—A. J. COOK.

They lengthen them out with raised caps, and rear drones in them, occasionally.—MAHALA B. CHADDOCK.

I never knew them to do so, except as they cut away the foundation and then built drone-comb.—G. M. DOOLITTLE.

Yes, bees do cut down worker-cells, and on the same bases build drone-cells. This, however, occurs only rarely in small quantities.—JAMES HEDDON.

Yes, when they are obliged to do so, not having any place to build drone-comb.—C. H. DIBBERN.

Yes; and I am in a "peck of trouble" about it, too. I never had so much of that kind of work done before in a whole season as has already been done this spring—now May 8.—A. B. MASON.

Yes; that is, they often rear drones in worker-cells, but as they cannot enlarge the cells in diameter, such drones are necessarily smaller than those reared in full drone-cells.—J. E. POND.

In my experience, only when the sheet of foundation sags so as to stretch the worker embryo-cells, as impressed on the sheet to an unnatural size, in which case the bees will turn them into drone-cells.—G. W. DEMAREE.

Yes; if the foundation is injured in some way or out of shape, and when they want drones. This is rarely done, and usually on the outside edges of the foundation.—THE EDITOR.

A Plan for the Prevention of Increase.

Written for the American Bee Journal

Query 646.—1. How would the following plan work to prevent increase? When colony No. 1 swarms, hive the swarm as usual. When No. 2 swarms, take two or three of the center frames out of No. 1, replacing them with frames of foundation, cut out all the queen-cells, and put the swarm from No. 2 into hive No. 1. When No. 3 swarms, prepare No. 2 in the same manner, and put in the swarm from No. 3. 2. Would this satisfy them so that they would not swarm again?—Ohio.

We hardly think it would in a good season.—DADANT & SON.

It is a matter of experiment. Try it and let us know.—P. L. VIALLON.

It will usually satisfy them if they have plenty of room.—A. B. MASON.

In most instances it would, and there would be but few exceptions.—MRS. L. HARRISON.

It will do some good toward preventing increase, but will not be infallible.—EUGENE SECOR.

About the same thing has been practiced for a long time, and is said to work well.—C. C. MILLER.

Your plan will work in many cases, but you will meet with failure in actual practice. You will find that they are not satisfied every time.—H. D. CUTTING.

1. I have no experience with this plan in detail, but I see no reason why it will not work. 2. Try, and then you will know.—J. M. HAMBAUGH.

1. I do not think that it would work satisfactorily; besides it involves too much labor to carry it out in a large apiary. 2. Not in all cases.—G. L. TINKER.

This plan has often been tried, and while it does well in a general way, it will not prevent swarms from issuing.—J. P. H. BROWN.

I have often practiced this, except that I did not take out the frames. It usually works well, but sometimes fails to subdue the swarming impulse.—A. J. COOK.

1. That plan and similar ones have never proved satisfactory with me. 2. Now and then a swarm would be satisfied, but generally they would swarm again.—R. L. TAYLOR.

I think that your plan would work well, but the way to make sure, is to try it. Those who do, please report through the BEE JOURNAL. I believe that it would practically kill the swarming fever.—WILL M. BARNUM.

I have tried this, and found no objection to it, except the complication and labor. It does not pay me. I do not find it the cheapest way to get the most surplus honey from a field.—JAMES HEDDON.

I have never tried this plan, but I doubt its success. With a continued honey harvest, the swarming fever would be continued or revived. I would prefer returning the swarm to the hive whence it came, without the queen, and in six or seven days destroying all queen-cells but one.—M. MAHIN.

I would not go to any such labor as is suggested by the querist. What is known as the "Heddon method" is the simplest and most effective. I have practiced it ever since the war, and I want nothing better. It permits the swarm to issue, carries the whole force of the old hive to the new, and rears a new queen besides.—J. M. SHUCK.

I practiced this plan some six years ago, and one season satisfied me. The bees will usually prepare to swarm at once, and become sulky and work but little, though the fields abound with honey. Then, too, (if it prevented swarming) your queens would soon be old and worthless.—C. H. DIBBERN.

This is exactly the plan I am using this season, except that I use empty combs instead of the foundation, and so far it has worked well. Remember, however, that we are having a poor season, and I am only doing this in our basswood bloom, so as to keep forces together as much as possible, hoping to secure more honey in the sections by so doing.—G. M. DOOLITTLE.

1. Your plan has been tried often, or at least plans substantially the same, and they do not give satisfaction. The better plan is to keep each colony together. This can be done by hiving the swarm on the old stand, putting a

perforated zinc excluder on the new hive, and place the brood-chamber of the parent hive on the excluder above the swarm. A colony managed in this way will not attempt to swarm, and will work all right. Colonies that have very old queens that they wish to supersede, are very hard to satisfy short of superseding the old queen.—G. W. DEMAREE.

This is a sort of variation from an old plan that has been mentioned several times in the bee-periodicals. It will probably work well enough if one has the time and patience to bother with it. Whether it would prevent swarming again, or not, is a matter of great uncertainty. "It might, and then again it mightn't."—J. E. POND.

The method is not new, and it has been practiced with varying success for a long time. It is a laborious method, and does not invariably prevent increase.—THE EDITOR.

CORRESPONDENCE.

HONEY.

What is Honey? Is it Digested Nectar?

Written for the American Bee Journal

BY DR. J. W. M'KINNEY.

As all apiarists are interested in the honey product, they cannot fail to take deep interest in everything pertaining to the subject of its production, its purity and use. All alike feel a deep interest in maintaining the *true facts* as to the production of this, the most delicious of all sweets. Therefore, I am led to call in question the statement made in the article appearing on page 375, written by Prof. A. J. Cook.

As much as I admire the writings and opinions of Prof. Cook, I must enter a protest against the idea as advanced by him, in reference to the production of honey. In the article referred to, entitled "Bee-Glands," we find this statement, when speaking of the probable function of certain glands in the honey-bee: "All honey is completely or partially digested nectar." If this be true, then honey is not the pure essence of sweetness distilled through the nectaries of flowers; but is largely the product of the glands of insects; for the Professor says, just preceding the above quotation, that the "cane-sugar of nectar is changed to the grape-sugar of honey," by the action of these certain bee-glands.

We have always been led to believe—and the facts on investigation prove it true—that syrup made from cane-sugar and given to the bees, will be deposited in their combs just as taken from the feeder. So, also, the nectar taken from flowers is deposited without change.

As evidence of the foregoing fact, we see that nectar gathered by the honey-bee and deposited in combs, retains its color, flavor and aroma peculiar to the vegetable bloom from which it was gathered by the bee. All the change that can be perceived by any test from the time the nectar is gathered, deposited in the comb, and sealed over, is the evaporation of a portion of water it contained. This is done after being deposited in the comb by the heat in the hive and the fanning process by the bees' wings, and not by the *digestive* process of the insect.

Digestion in all animals is a function by means of which alimentary substances, when introduced into the digestive canal, undergo different alterations. The object of this is to convert them into two parts—the one a reparatory juice, the other, deprived of its nutritious properties, to be rejected from the body.

Nectar is gathered by the bee and received into a sac closed at its lower end, lying above and behind the digestive canal, in which condition it is carried to the hive and deposited in the comb, without change by the process of digestion.

The digestive function in the honey-bee is called into action on honey and pollen when taken into the digestive canal for the purpose of furnishing food for their larvæ, and for sustaining their own existence, or for the elaboration of wax.

When digested for food for their larvæ, we see that in appearance and taste the honey and pollen has undergone a very great change. It is now a white, opake substance, with a slightly sub-acid taste.

When honey is taken in abundance for two or three days, and perfectly digested and assimilated, we then have the elaboration of wax.

In no sense can we conceive of the digestive organs of the insect being brought into requisition in the production of honey. Just as sipped from the nectaries of flowers, with whatever peculiar characteristic the nectar may have—whether from white clover, with its delicious flavor and slight tendency to granulate, or from the Spanish-needle, with its golden color and aromatic flavor, and no tendency to granulate; or from the boneset (*eupatorium perfoliatum*) with its pungent and bitter taste—it is carried home to the hive, and there deposited in the combs.

When reflecting upon the number of trips made by the bees each day during a good flow of honey, we must regard the time entirely too short for digestion to take place, did the nectar enter into the digestive canal when gathered. Including the time going to and coming from the fields, and the time occupied in filling its honey-sac, there is only from 25 to 30 minutes consumed by the bees.

If syrup is fed near the hive, only from 10 to 15 minutes time is consumed in making the round-trip. Could digestion be so rapid as to change the cane-sugar to the "grape-sugar of honey" in so short a time? Certainly not.

With all due respect, then, I would suggest that the bee-fraternity be always on guard against a "scientific pleasantry," as its effect is sometimes baneful.

Camargo, Ills.

HINTS.

How to Make Lazy Bees Go to Work—Honey Packages.

Written for the Prairie Farmer

BY MRS. L. HARRISON.

Bees have been living this season, one day with Dives, and the next with Lazarus; consequently, the honey will not be so fine as it would have been had the flow been continuous. One season the honey came so fast that the bees were saving of their wax, and the comb was so delicate and thin, as to be almost imperceptible. This was during clover bloom. Owing to the heavy rains that have fallen so often, and so abundantly, clover bloom has lasted much longer than usual.

Lazy Bees.

Bees are proverbially industrious, but now and then a colony will be found that does not deserve the title. I have been watching with interest a very large colony with the surplus-boxes full of bees; also the portico and the outside of the hive covered to the top. They have been loafing for more than a fortnight, and the honey in the surplus-boxes increased very slowly. I was tired of such folly, and moved their hive and put in its place a hive containing young bees and a virgin queen.

I obtained these bees in this way: A colony swarmed, and, as I do not desire increase, I hived them and moved the old colony, putting the swarm where it stood. The next day I took out all the combs belonging to the old colony, brushed off the bees, and extracted the honey. There was no young brood, as the colony had swarmed before, and there was a num-

ber of queen-cells that their inmates had lately left. All bees that had been working in the fields flew to the old stand and joined the swarm.

I put back the frames and carried the hives to where the loafing colony had stood, and dipped out the bees with a long-handled spoon from the crowded portico, and gave them to the new hive. The bees that were working in the fields, as they returned, entered the hive upon their old stand. There are now two good working colonies in lieu of one loafing one.

Honey Plenty.

Bees are as good-natured to-day as a fat alderman after dinner, fanning himself and calling to his fellows, "We are rich, and folks know it." I took off sections and emptied the case upon a board placed upon an adjoining hive, selected those that were sealed, and put back those that were not, and filled up the case with empty sections. In the operation some honey leaked out upon the board, and I placed it in front of the hive, thinking that the bees would gather it up, but they would not look at it.

I would like to see those persons who think that honey is glucose fed to bees. Try the experiment of feeding them now. The Creator never intended bees to sip syrup, like flies, but to gather the juices of plants. When honey is as plentiful as it is to-day, it is a pleasure to work with bees; they can be brushed from their combs, or switched off with little twigs, and they do not even take any umbrage at it.

Removing Sections.

When sections are sealed, they should be removed so that they will not get soiled by the travel of the bees. They should be put into a tight box, so that the moths cannot get at them to deposit eggs. Shipping cases are just right for this purpose. I first make a sort of pan of manilla paper, fitting it nicely into the bottom of the case, and,after the sections are scraped free of propolis, fit them in nicely, cover them securely, and pile them up ready for market.

Packages for Extracted Honey.

I do not like wooden receptacles for extracted honey, for several reasons. It is difficult to get barrels that will not leak, and when honey granulates, it is hard to dig out. Those who produce honey largely, must of necessity use barrels or large tanks, but it is different with those who only produce a few hundred pounds in lieu of thousands. Large jars that are glazed as smooth as glass make good receptacles, as they can be set in tanks of water to melt the honey when it is granulated. Tin cans, of dimensions of eight or ten gallons, are a pet package with me, as they are lighter than jars. If jars of extracted honey are exposed to a very low temperature, they will burst with the expansion of the honey.

Many bee-keepers are opposed to the idea of straining honey, as all bits of comb or bees will rise to the top, and can be removed; but I prefer to tie cheese-cloth over cans or jars, and let the honey, as it runs from the extractor, pass through it. When a jar is full, remove this strainer, and tie a fresh piece of cheese-cloth over it, so that it can cure and evaporate.

Some of those who produce extracted honey largely, have run-ways covered with wire-gauze to keep out insects, so that the honey is boiled down by the sun's rays in passing along to its final tanks or store-house. I have a few glass jars of very fine extracted honey, covered with cheese-cloth, kept in place with rubber bands, daily in the hot sun, to evaporate and thicken.

Peoria, Ills.

HEAT.

The Reason Why Bees Leave the Hive—Smokers, etc.

Written for the American Bee Journal

BY CHAS. H. WIELE.

Dr. C. C. Miller is right when he says that heat will make the bees leave the hive. My bees are mostly in the shade of plum-trees, which are trimmed high, so that the limbs will not interfere with the working amongst them. If I am forced to place a new swarm in the sun, I try to get an armful of grass or weeds, and cover the whole hive with it, then they will seldom leave.

What I have never seen before is, that colonies would swarm again after 5 or 6 days, having received an empty hive and all the surplus boxes of the old colony nearly filled with honey. The brood-frames were built half way down, with no other than drone-combs, and the rims of the combs covered with queen-cells—as many as fifty, perhaps; of course the bees were returned, all the drone-combs taken away, and then I put in some empty combs of worker-cells, which made them stay and go to work with a will.

Even with experience, a man has to learn every day. There will always be something to turn up that he did not see before.

The "Doctor" smoker is a real comfort; it smokes away for almost half a day, and with nearly 200 colonies it is a necessity to have a good smoker.

Bees are booming, and there will be a big crop of clover honey. I have about 2,000 pounds. They have slacked off a little with swarming, but will surely commence again when golden-rod and other fall flowers commence blooming; the hives are overflowing with bees.

Stoddard, Wis., July 18, 1889.

TRANSFERRING.

How to Proceed When About to Transfer Bees.

Written for the American Rural Home

BY G. M. DOOLITTLE.

A correspondent writes, saying: "I have several colonies of bees in box-hives; how am I to get them out of these hives into movable-frame hives, as I wish them?"

The first thing to do, is to get things in readiness for the work, which will be to bore some small holes through the end-bars, and top and bottom bars of the frames, so that when the combs are fitted into them, small wooden pegs or wire-nails of suitable length can be pushed through these holes into the combs, to hold them in the frames until the bees have made them secure, when the nails or pegs are to be drawn out; some prefer to wind twine or wire around the frames, but I do not like this plan, for wherever the wire comes over the brood, the bees gnaw the brood out, which hurts the combs, besides spoiling so much brood.

Besides having the frames and wire-nails ready, a board will be needed that is about two feet square, and a barrel or box of convenient height for the operator to place the board upon. On one side of the board should be tacked three or four thicknesses of cloth, so that the brood and combs will not be injured by being placed upon it.

There are only two really favorable times for transferring, although it can be done at any time, by using care. The first is during fruit or apple bloom. If done in fruit bloom, but little brood and honey are in the way, while honey is coming in to prevent robbing, as well as to enable the bees to promptly repair their combs. The second, is 21 days after the first or prime swarm issues.

When done 21 days after swarming, there will be no brood in the hive except a little drone-brood, so there will be no loss from cutting through it, as all the bees from the eggs laid by the old queen will now be hatched, while the young queen will have only just begun laying.

Having the things above alluded to in readiness, together with a long-

bladed knife, proceed to the hive and blow a few puffs of smoke in at the entrance to alarm the bees, when the box-hive or log-gum is to be turned bottomside up, and the frame hive placed on the stand that the other occupied. Blow a little smoke over the bottoms of the exposed combs, and place the cap of the hive, or any box, over the bottom of the hive, or a little to one side, for the bees to crawl up into.

It is said that the box must fit so tightly that no bee can escape, and that the bees must be "drummed" up into it; but I find that the tight joint is unnecessary, and that all the "drumming" required is done by splitting the old hive apart, preparatory to getting the combs out.

Select the side of the hive to which the combs run parallel, if possible, and proceed to pry off the side, or split the old log open, using a cold-chisel to cut the nails, where such is necessary. If there are cross-sticks through the centre of the hive, these must be cut off in some way, otherwise each comb is liable to be injured to a more or less extent.

By this time the bees will all be off the combs next to you, when the first one is to be cut out of the hive and laid on the prepared board. Now lay the frame on the comb, and mark the comb by the inside of the frame. Take off the frame and cut the comb a hair larger than the marks, so that it will fit closely. Next, press the frame over the comb until it nicely fills the frame, when the pegs or nails are to be pushed through the holes into the combs, so as to hold it in place in the frame when hung in the hive.

To take the frame from the board, raise the board and all until the frame stands in the position that it does when it hangs in the hive, when there will be no danger of the comb falling out in lifting. Place in the hive, when the bees which have returned from the field will take possession of it, licking up the drip, etc.

Proceed to cut out the rest of the combs, and fit them into the frames in the same way, until all are used, and then place them in the new hive, in the same relative position as nearly as possible, which they occupied before. By this I mean, place the brood in the centre of the hive and near together, instead of scattering it about among the honey or empty combs, for if so scattered, some of the brood will be liable to perish, if there should come a cold spell soon after the transferring is done.

If some of the combs with brood in will fit the frames better if turned bottomside up, from what it occupied in the old hive, I see nothing in the way of placing it in the frame as it will fit best, for with our reversible frames it has been proven that it makes no difference which side up the brood goes.

If drone-comb to any amount is found, it is well to leave the most of it out, if not the whole, for only a few drones in each apiary are needed for all practical purposes. Many pieces of nice worker-comb are made by the combs cutting to disadvantage; they can be fitted into the frames and a little melted wax dropped between each joint, so as to hold them in the position you wish.

As soon as all the combs are in, close the new hive, and hive the bees which are in the cap or box, into it, doing this in the same way that you would hive any swarm. If a scarcity of honey exists at the time you wish to transfer, so that robbing is liable to occur, it is then best to "drum" the bees out into the box, after which the old hive can be carried into a room while the combs are being fitted into the frames. Something still better than this, would be to use a bee-tent over both the hive and the operator. In this way the work can be done at any time right in the apiary where the hives stand.

In a few days, or as soon as the bees get the combs fastened to the frames, the nails or pegs can be drawn, when you have something nearly as good as if the combs were built in frames originally.

Borodino, N. Y.

HIVES.

Impartiality and Veracity—the Large vs. Small Brood-Chambers.

Written for the American Bee Journal

BY CHAS. DADANT.

After reading the article of Mr. Hutchinson's, on page 425, I had resolved not to write again on the same subject, for I do not like to overthrow my opponent; but another fact, of which I may write hereafter, changed my mind, and incited me to show the means used by some writers to support a bad cause.

In answer to my argument, that the bee-keepers who oppose large hives have never tried them, Mr. Hutchinson answers: "*My* ideas in regard to the size of hives are not wholly theoretical. I have used hives ranging in size from a two-frame American to one holding 33 American frames."

While he wrote this, Mr. Hutchinson forgot a Latin proverb: *Verba volant, scripta manent*—"The words fly, the writings remain;" for I have under my eyes two letters from him; the first says: "I must say, though, that I used large hives, 11 American frames for several years, and gradually changed them for smaller, so that I am not wholly without experience."

After receiving my answer, that 11 American frames were not larger than 10 Langstroth, Mr. Hutchinson wrote the second letter, in which I read: "When I wrote you how large hives I had used, I, of course, knew that you had used larger ones."

Then the 33 American frame hives were invented by Mr. Hutchinson just for the need of his cause.

He adds that "Mr. Heddon has used many different sizes of hives; among others he had 30 'long idea' hives, that held 30 frames each, and he used them two years before throwing them away."

In the book, "Success in Bee-Culture," by Mr. Heddon, on page 85, we read: "Some advise us to have extra-prolific queens; put each one in a hive containing 30 combs, then shift the combs every few days, and make her keep them full of brood. I tried it—to my satisfaction. I found that this method demanded an extra amount of labor—a labor that would pay the interest at 20 per cent. on every dollar of the capital invested. So I just cut up these large, long hives, making five out of each one, and divided those 30 combs among these hives, and reared four more queens."

Then, according to Mr. Hutchinson, Mr. Heddon made 150 6-frame hives, since he had 30 to divide. I would be glad to know the number which was added by Mr. Hutchinson to the true quantity of "long-idea" hives used by Mr. Heddon. Perhaps he added but a cipher after the number 3.

Be it as it may, an experience with such an extravagant hive and system has no more to do with our large hives than the names of Messrs. Doolittle and Grimm, cited by Mr. Hutchinson, since they have never used them.

Mr. Hutchinson continues: "In his first article, Mr. Dadant asserts that a large colony requires no more labor than a small one, and I asked him if he could extract the honey from a large colony as soon as from a small one. This *he evades* by telling with how few days' work he and Mr. Stachelhausen have produced large crops of honey—all of which no one doubts; but the question is, 'Can you extract the honey from a large hive as soon as from a small one.'"

Scripta manent. If the reader will take the trouble of looking at the bottom of page 342, in the first column, he will read in the article of Mr. Hutchinson: "Can he (my oppon-

ent) extract the honey from a large colony with as little labor as from a small one?" I defy Mr. Hutchinson to show where he used the words "as soon as," which have very little significance, and were evidently devised by him to *evade* answering my argument; for he knows perfectly that it is easy to prove its truthfulness.

In the Hutchinson *Review* of May 10, page 74, Mr. Heddon writes: "Our method in running three large apiaries, is to keep a good man in each one...." The six apiaries of the firm of Chas. Dadant & Son, are cared for by a single good man, Mr. McDaniel, who attends also two others—one for himself and one for another bee-keeper; while each one of the Heddon apiaries is kept by a good man; yet we do not use a system which permits the handling of hives rather than frames; but for 20 years we tried to realize the motto of Mr. Heddon, as given in his "Success," page 10: "He who produces at maximum cost will fail; he who produces at minimum cost, will succeed;" and our large hives helped us to realize it better than its author did, even with his new hive.

Mr. Hutchinson continues: Mr. Dadant says that I have condemned oil-cloths, as I have large hives, without trying them. Large hives I have used, quilts *I have not to any great extent....*" *Scripta manent.* We read in the *Review* of Mr. Hutchinson's January issue, page 11: "Perhaps our genial friend can do better with quilts than we can; we think he could, because we have *never* used them—seeing others use them satisfied us."

Well, I think that an advocate is very short of arguments, who uses the means to which Mr. Hutchinson had recourse, and that such a poor way is far from giving confidence to his readers.

Hamilton, Ills.

THE QUEEN'S VISIT

To the Bee and Honey Show at Windsor, England.

From the British Bee Journal OF JULY 4, 1889.

Bee-keepers who have this year visited the annual show of the Royal Agricultural Society of England in its year of Jubilee, have had a treat of a high order. About ten miles of shed, some 130 acres of a specially suitable part of Windsor Great Park, gave ample room for man and beast to move about in comfort.

"When Greek met Greek, then came the tug of war," but when bee-keepers met those whose friendly faces had been pictured but in the mind's eye since the last Royal, then came the tug of kindly greeting, in many cases accompanied by some enthusiastic argument as to the varied points of perfection (or otherwise, alas!) of this or that exhibit, this or that method of procedure, amidst the changes and chances of modern apiculture.

Amongst the many, to us, unknown apiarists of the old benighted schools of arrant skeppists and self-opinionated bee-keepers who persist in walking in the lines their fathers trod, no doubt were many who, so to speak, "came to scoff and remained to pray" for the multitudes of appliances on exhibition, the exceedingly fine show of immaculately pure honey in sections and bottles, and the practical illustrated teaching by Mr. S. J. Baldwin, in the bee-tent of "How to do Rightly," must have convinced many who still remain obdurate, or obstinate, that there is but one way for bee-keepers to pursue—the humane method taught by the British Bee-Keepers' Association, and its affiliated offshoots in the counties, the modern scientific way of management in the frame-hive.

At an early hour on Friday morning, June 28, it was evident that something out of the ordinary routine was about to transpire. In the bee-tent all was activity, and the officials in charge were busy making preparations. The exhibits were being arranged, and Mr. Huckle was all energy and action. The floral decorations, which were becoming a little faded, were being rearranged by Mrs. Bligh, who kindly undertook this part of the programme, and accomplished her task to the satisfaction of all in a way only possible for a lady, and the various flowers visited by bees arranged amongst the other exhibits, formed one of the most attractive features of the show.

The Chairman (Mr. T. W. Cowan), who had been present during all the week, the Vice-Chairman (Hon. and Rev. H. Bligh), and the Rev. R. Errington, were also early in attendance, and active. It was not definitely known until the day before, that Her Majesty, the Queen, intended honoring the bee-department with a personal visit, hence these preparations. It had been arranged that on Her Majesty's arrival at the department, the Baroness Burdett-Coutts was to present her with a bouquet of flowers visited by bees. This the Chairman and the Rev. J. L. Seager arranged with Messrs. Sutton & Sons, that they should prepare from bee-flowers growing on their farms at Reading. The bouquet, which arrived at 11:30, was artistically arranged, and fitted in a handsome gilt holder, and tied round with white satin ribbon with flowing ends. In the holder was an inscription stating that it was presented to Her Majesty by the British Bee-Keepers' Association.

About 12 o'clock the Baroness drove up, and was received by the Chairman and Committee, and the bouquet, which was greatly admired by all present, was handed to her. After viewing the parade of cattle from the Grand Stand, the Queen proceeded on her round of inspection, the crowds of people cheering vociferously. From the bee-department the noise was heard in the distance, and the advance of the Queen's carriage could be marked by the gradual swell of the applause.

Soon after 12 o'clock there was a rush of policemen, who cleared the shed and formed a line to allow the procession to pass. It was a pretty sight, as those who were to take part in the reception of the Royal guests, looked up the avenue and saw the Royal procession advancing at a foot pace. Mr. Jacob Wilson, the Honorary Director of the Show, headed the procession on horseback, and was followed by the outriders and equerries in waiting. Then came Her Majesty's carriage, drawn by four horses. In the carriage the Queen was accompanied by the Prince of Wales, and the Prince and Princess Henry of Battenberg.

The Baroness, Mr. Cowan, Mr. Bligh, and Mr. Errington, were ready waiting to receive Her Majesty; and as the carriage stopped in the centre of the stand, the Baroness handed the bouquet of flowers to the Queen, and explained that they were specially selected as representing flowers visited by bees. The Baroness then presented Mr. Cowan to the Queen as Chairman of the British Bee-Keepers' Association. Her Majesty received him graciously, and he briefly explained the objects of the Association, and drew Her Majesty's attention to some of the principal exhibits in the show. She showed great interest in the honey, and at this moment Mr. Bligh handed to Mr. Cowan a specimen of comb honey. This was a beautiful specimen of sainfoin honey, from the exhibit of Mr. W. Woodley, and the device worked by the bees consisted of the following letters:

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enclosed in a frame and covered with glass. Mr. Cowan held it up, and explained that it had been worked by bees in the county of Berks, and asked if Her Majesty would graciously accept it from the British Bee-Keepers' Association. The Queen bowed most graciously and replied, "With great pleasure," and as she thought they

could hardly find room in the carriage for so bulky a present, the Prince of Wales suggested it should be sent to the Castle. Much interest was also shown in the method of folding a one-pound section. The Queen then shook hands with the Baroness and Mr. Cowan, thanked them, and drove off.

In the other carriage were Prince and Princess Christian, and Prince Albert of Schleswig-Holstein and suite.

The weather was all that could be wished, and it is some years since a show of the Royal has passed off without umbrellas being called into constant requisition; but during this show they have only been required to keep off the sun's rays.

An amusing incident happened just before the Royal procession passed. The refreshment contractors had placed their cooking furnaces quite close to the skeps that were kept for driving the bees and other operations in the bee-tent. These furnaces were used at night for cooking the joints for the day's provisions. The heat made the bees rather uncomfortable, and a swarm issued and passed over the route to be taken by the Queen. Thousands of bees were flying to and fro, and Mr. Baldwin got a skep and induced the bees to settle by sprinkling them on the canvas of the bee-tent. It was not a moment too soon, for no sooner had the bees settled quietly, when the Queen drove up. All the arrangements were perfect. The device, accompanied by several one and two pound sections of comb honey of first-rate quality, selected from the exhibits of Mr. Woodley, of Newbury, and Miss Gayton, of Much Hadham, were in due course conveyed to the Castle, to be placed on Her Majesty's table. Mr. Huckle has since received the following communication:

WINDSOR CASTLE, June 29, 1889.

SIR:—I am commanded by the Queen to request that you will convey to the Committee of the British Bee-Keepers' Association, Her Majesty's thanks for the honey and honey-device which they have been kind enough to present the Queen.

Yours, faithfully,
HENRY PONSONBY.

The bee-department of the Royal has been honored twice previously by Royalty. At the Kilburn show in 1879 the Prince of Wales visited it, at Norwich in 1886 it was visited by the Prince and Princess of Wales, whom Mr. Cowan, with other members of the Committee, had the honor to conduct around the department.

The visit of Her Majesty and the Royal Family will cause the Royal Show at Windsor to be long held in remembrance by all bee-keepers. The status of bee-keepers has been raised by the honor conferred upon them. It has been shown that bee-culture is an integral part of agriculture, and that the connection between agriculture, horticulture and apiculture is very intimate. The Royal notice, the magnificent weather we are enjoying, and the hopeful honey season, will impart a heart of grace to all bee-keepers, and cause them to go on their way rejoicing.

QUEENS.

New System of Rearing Several Queens in a Full Colony.

Written for the American Bee Journal

BY DR. G. L. TINKER.

It has long been sought to rear and secure the fertilization of a number of queens, and get them all laying at once in a full colony of bees; but the well known antagonism of queens has heretofore prevented the accomplishing of that object. While it may, or may not, be of any advantage to the honey-producer, to have a multiple of queens in a hive, it must be conceded that a successful system of rearing queens, as indicated, in full colonies, will be a boon to queen-breeders, and a great improvement over our present methods of rearing queens.

At last I have a successful plan—what I call a "Queen-Rearing Chamber"—by which may be readily reared from 10 to 20 queens in any full colony of bees, and get them all laying at once, the worker bees all flying from one entrance, but having access to all of the queens.

It seems almost incredible that we should be able to so interfere with the usual course of nature, as to bring about such a result after so many years of having colonies with only one laying queen, or, at the best, a young one and a superannuated old one!

To the introduction and successful use of perforated-zinc in our methods, is due the success of this new plan; although, with what I now know, I could make a hive of all wood and succeed; but the perforated-zinc is the most practical excluder thus far put to use.

To successfully rear a number of queens at once in a hive, it is only required that we keep the queens apart by the use of the zinc, and give them separate entrances. However, one sheet of the zinc intervening between the queens is a partial failure, as the rival queens will discover each other and quarrel; the result being that one of them takes fright and swarms out, or may be killed. To remedy this difficulty, I began to use two sheets of the zinc between the queens, with a bee-space between the sheets, or solid wood. Thus arranged, there is no trouble about getting the queens mated.

The principle here outlined was published in the BEE JOURNAL on page 26—see next to the last paragraph of the third column—which another season's experience has shown to be correct in every word. Thus it will appear, that while queen-cells will be cared for and allowed to hatch above zinc excluders in full colonies, it is impossible to secure the mating of the young queens while there is a laying queen in the brood-chamber below.

I wish all queen-breeders to mark this fact, for it is the sole reason why the perfection of the "queen-rearing chamber" has so long been delayed; for both myself and others have often had queen-cells hatch above queen-excluding honey-boards for years, and although the young queens were given a chance to fly out, not one of them was ever fertilized without a coincident loss of the laying queen below in some mysterious manner. Hence, I feared that we should never be able to get two or more young queens laying in one hive at the same time. I then began to experiment with two virgin queens of the same age, and to my astonishment I succeeded in getting both laying the first trial.

The principle having been discovered, it only remained to make a practical application of it, and the result is the new "queen-rearing chamber." Now we shall be able to have several laying queens in a hive, and after they get to laying, one sheet of the zinc between them is all-sufficient for continued harmony; the bees seeming to care for one queen as much as another in the same hive.

I have had four queens of the same age together in one hive for the past two months, and numbers of other colonies with two and three laying queens for shorter periods, until I know that the system is not only possible, but a great practical success.

In perfecting this method I have spent much time and hard study, besides money, and I came to the conclusion that I ought not, in justice to myself, to *give* it to the public. After perfecting the plan during the season of 1888, I applied for a patent which has just been granted, and now I am ready to make the matter public.

Being the first to discover this new system of queen-rearing, and to make a practical and successful application of it, I shall therefore claim all queen-rearing chambers in which the foregoing principle is made to appear.

How to Make the Chambers.

The chambers, as I have perfected them, are divided into compartments by three partitions made of part wood

and part perforated-zinc. The partitions are so placed that two brood-frames will go into the apartments at each side, and one frame in each of the middle apartments. The outside dimensions are 12⅛x19⅛ inches, or the same size as my hive, and takes the same brood-frame. The depth is 7⅛ inches, so as to allow a bee-space above and below a 7-inch brood-frame.

On the bottom of the chamber is attached a sheet of perforated zinc, or a wood-zinc combination, which is attached also to the bottom of the partitions, which extend through the chamber to the top, so that a sheet of perforated-zinc laid on the top, or the wood-zinc honey-board, will close the four apartments to the queens.

When the chambers are storified, a zinc excluder is used between each one of them to form the necessary bee-space; but an excluder is not required under the lower one, as we may put on a strip of perforated-zinc over the entrance in the bottom-board on which the chamber is placed; or, we can place a queen-trap or a simple excluder before the entrance. This prevents any queens or drones from getting under the chamber out of sight, and will compel both the queens and drones to go in at the holes in the sides of the chambers. It is remarkable to see the drones go out and in at the holes, apparently visiting the young queens in the several apartments, but the queens return to the holes from which they came, with almost unerring certainty. The holes are made with a ⅜-inch auger, near the bottom of the chamber, one to each of the apartments.

Where the holes come near each other in storifying, I place a twig of green leaves or other object to aid them in locating the right hole. I have also painted the chambers with red, white, blue and yellow sides, but I do not think it necessary, if twigs of leaves are attached about the holes. The twigs are pinned on with common pins.

In starting the chambers with queen-cells, all of the holes are stopped with common corks until the cells are hatched. On the third or fourth day after, the corks must be removed about 12 m., and if the colony is strong, the corks may be left out. After the queens have mated, the corks may be put back again. But very few workers are seen to issue from the holes, so that they may as well be stopped after the queens are laying, unless drones are in the chambers, in which case the holes may be left open at least during the middle of the day.

I find it best to rear about the number of queens that a colony will usually start, or 12 to 16; but if the colony is built up very strong by hatching brood from other colonies, after the first lot of queens are taken out and disposed of, it may be started with 6 to 8 of the chambers, and from 20 to 30 queens reared at a time. If the cells given will all hatch at about the same time, I think that it would be possible to rear that many queens every two weeks in one of these colonies.

In taking out the queens, one, two or more may be taken any time after they begin laying, but no re-queening can be done till every queen is removed and the colony has been queenless at least three days; and it is better to wait until some of the cells started are sealed over; then cells should be given that will hatch very soon, and all within a few days. With our present method of getting cells, this is very easy to do. Either the cells may be introduced, or they may be hatched in nurseries, and then a queen allowed to run into each of the apartments in all of the chambers used; but if capped queen-cells are in any of the apartments, it is safer to introduce the cells. If we tear down the cells (and it is the best plan at this time of the year), then a queen just hatched will be accepted every time.

How to Get Queen-Cells.

My method of getting queen-cells I think to be far superior to any other plan. It was first made known at the late Columbus International Convention, and is as follows:

Take the queen and brood from any colony, and give combs of honey or sealed brood, leaving out a central comb. Cage the queen removed, and put her over the frames to keep the bees quiet until evening. Then take her away, and leave them queenless until the next day, when they will not destroy eggs that are given to them to rear queen-cells.

Prepare the eggs for them as follows: Take a brood-frame, remove the bottom-bar, and nail in a cross-piece one inch wide, and as long as the frame inside, 1½ inches from the lower end of the end-bars. Fasten in a sheet of foundation that will come down nearly to the cross-piece, and the frame is ready for the eggs.

Select the colony to breed from, and cut out a piece of comb 2 inches square, containing eggs about ready to hatch, and cut up the comb into single rows of cells; then cut off two-thirds of the comb on the opposite side of the septa, after which cut up the rows of cells into cells having an egg in each. These are to make the queen-cups, and I let the bees make them.

Hold the frame bottom up, and drop a little melted wax on the cross-piece about an inch apart, by means of a small camel's-hair brush, and, before the wax chills, attach the cells so that they will point mouth downwards, when the frame is placed in the hive. My brood-frame is 7x17 inches, and I can attach in this way 16 cell-cups without danger that the bees will build any of them together.

As soon as the frame is prepared, place it in the queenless colony, and they will start 12 to 16 cells. As soon as they are well supplied with royal food, the bees are to be shaken off, and the frame placed in the super of a strong colony over a zinc-excluder, for completion and care.

Give another prepared frame to the queenless colony, and remove as before, which may be done three or four times, when the colony had better be given a laying queen. All of the cells may be given to the strong colony to care for till nearly ready to hatch.

If no honey is coming in, the colonies building the cells should be liberally fed.

My new brood-chamber holding the suspended Langstroth frame, size 7x17 inches, I regard as the best adapted to the new system of queen-rearing, as it is also the best for the producer of comb or extracted honey; for wintering, or for breeding up strong colonies in the spring.

New Philadelphia, O., July 22, 1889.

HONEY SHOWS.

How to Make a Good Display—One that Will Attract.

Written for the Rural Canadian.

As very many will be making exhibits of honey before long, a few suggestions will not be out of place.

Do not attempt too much; do whatever you undertake in a thorough manner, a credit to yourself and the industry which you represent. Exhibits of anything gotten up in a hurried and incomplete way, reflect very unfavorably upon whoever makes them.

If you have not a good article, or if a display is required, and you have not the proper material to make it with, what benefit will you derive? None. The neatest display you can make of honey would be a combination of comb and extracted honey.

If you wish to relieve the monotony of a honey show, some curiosity, by way of a frame of brood; if it contains worker, drone and queen cells, so much the better; also drones and workers. Of course it is not at all likely that you will be able to have queen-cells and a queen upon the same frame. Then photographs of your

apiary, or prominent and useful members past and present, of the Bee-Keepers' Associations are of interest and help to break the monotony of a honey display.

Regular shelves are not desirable; make them irregular, and give the shelves an appearance of variety.

Glass as a package for extracted honey is desirable if the honey is free from granulation, and of a proper color; it must, however, be remembered that, in transit, it is more easily broken. It is more liable to leak than a first-class tin can, therefore it is well not to show too much in glass.

One-pound and even two-pound jelly glasses and the different sized gem jars sell well, as the careful housewife can use them in doing up fruit later.

Tag everything carefully; mark on the outside of your cans what the contents are, so that you do not require to rush about in a frantic manner tearing open every case, and then in the last one find what you require. Depend on no one, bring your own tools.

If you calculate to return your goods, have a tag with the proper address underneath the one you put on to the exhibition, then when there, all you have to do, is to tear off the top tag, and your package is properly addressed. Do not allow your outside packages to be removed, as you may not be able to get them, but utilize them for stands, and cover all neatly with paper. In selling honey you will find that there are just certain hours when there will be many customers, and have everything convenient, and be prepared for a rush.

Keep your money in your pocket; it is surprising how far back you can reach for that article. Your pocket may become sticky with honey, but there is no use feeling stuck up about that. It would be a pleasure not to pen it, but sad experience prompts otherwise. Do not have any help in selling honey unless you can absolutely depend upon the honesty of such help.

Convention Notices.

☞ The Darke County Union Bee-Keepers' Society will hold a meeting at Greenville, O., on August 3, 1889. J. A. ROE, *Sec.*

☞ The Northern Illinois Bee-Keepers' Association will hold its next meeting on Aug. 20, 1889, at R. Marsh's, in Guilford Township, 4 miles northeast of Rockford, Ills. D. A. FULLER, *Sec.*

☞ The International Bee-Keepers' Association will meet in the court-house, at Brantford, Ont., Canada, on December 4, 5, and 6, 1889. All bee-keepers are invited to attend, and State and District bee-keepers' societies are requested to appoint delegates to the convention. Full particulars of the meeting will be given in due time. Anyone desirous of becoming a member, and receiving the last Annual Report bound, may do so by forwarding $1.00 to the Secretary.—R. F. HOLTERMANN, Sec. Brantford, Ont., Canada.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now SO CHEAP that no one can afford to do without it.

THE DANDELIONS.

Written for the Portland Transcript
BY E. CAVAZZA.

The gay young Dandelions had gold,
They cast it here and there;
On hill and dale their coins were found,
By roadside and in planted ground;
Their wealth of money manifold
They squandered everywhere.

The Dandelions grow elderly
And penniless and gray;
Their store of gold is spent, no doubt,
For now white missives fly about—
The poor old spendthrifts give, we see,
Their promises to pay.

The wayside and the meadow hold
Their promissory notes,
The banks receive them—and next spring
The honest Dandelions will bring
Ten thousand thousand disks of gold
Where now the seed-drift floats.

CONVENTION DIRECTORY.

1889.	*Time and Place of Meeting.*
Aug. 3.—	Darke County Union, at Greenville, Ohio. J. A. Roe, Sec., Union City, Ind.
Aug. 20.—	Northern Illinois, at Guilford, Ills. D. A. Fuller, Sec., Cherry Valley, Ills.
Aug. 31.—	Haldimand, at Fisherville, Ont. E. C. Campbell, Sec., Cayuga, Ont.
Sept. —.—	Maine, at Livermore Falls, Me. J. F. Fuller, Sec., Oxford, Me.
Sept. 5.—	Erie County, at Buffalo, N. Y. O. L. Hershiser, Cor. Sec., Big Tree Corner, N. Y.
Dec. 4, 6.—	International, at Brantford, Ont., Canada. R. F. Holtermann, Sec., Brantford, Ont.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

White Clover and Basswood.—S. G. Soverhill, Tiskilwa, Ills., on July 19, 1889, writes:

I had 30 colonies of bees to start with the past spring, and have 68 now. I have taken off 1,800 pounds of comb honey, and extracted 1,140 pounds, besides there is more ready to take off now. The bees are still storing from white clover. The flow from basswood is over. There is plenty of rain, and white clover will last sometime yet.

A Continued Honey-Flow.—S. J. Youngman, Lakeview, Mich., on July 21, 1889, says:

I predicted, a short time ago, that we would have a great flow of honey from the basswood bloom; excessive swarming has, however, interfered with the honey gathered, to a great extent. The basswood flow is over, at this date, but there is no stop to the honey-flow, as the clover on all pastured lands is blooming profusely again, and seems to yield honey the same as in early spring. Many swarms have gone to the woods.

Plenty of Bee-Forage.—A. W. Cumins, Woodstock, Ills., on July 22, 1889, says:

Bees are doing well. There seems to be more forage than they can handle—white clover, sweet clover, and basswood; but I notice very few on either of the last two plants. I had 7 colonies in the spring, and I now have 19.

Good Yield of Honey.—C. W. McKown, Gilson, Ills., on July 22, says:

My bees have done unusually well this season, and still the good work goes on. I had 98 colonies in the spring; now I have 140. Over half the old colonies have not swarmed at all. They seemed to be too busy to think about swarming. The white clover crop was very abundant, and the honey is of excellent quality. We have taken over 7,000 pounds from the hives—one-third of it comb, and two-thirds extracted; and there is a large quantity almost ready to take off now—in fact considerable of it ought to come off to-day—but, oh! we are so busy. My hired man took from the hives 700 pounds of extracted honey, and returned the empty combs, all by himself, one day last week. The sections have been filled more uniformly with straight combs this year than ever before for me.

The Basswood Honey-Flow.—S. D. Haskin, Waterville, Minn., on July 23, 1889, writes:

Bees began to work on basswood on July 4 a little, and on July 6 they were in full blast; it closed on July 20, with no interruption except a couple of light showers. I never saw any vegetation so weighted down with bloom as it was this year; but the nectar-flow was not over-abundant—only just tolerable, and during none of the time did the bees work strong on it all day. At the first it was in the morning or forenoon, and the last was in the afternoon. It was very warm weather. The honey is of the very finest quality, thick and heavy, ready to seal as soon as gathered.

Strong Colonies.—S. N. Black, Clayton, Ills., on July 20, 1889, says:

On June 1 bees were in a starving condition, but I never had so strong colonies in my life as I have to-day. I have hived but 3 or 4 second swarms, having put back the rest. A great many bees have swarmed 3 or 4 times. The increase is greater than I ever knew. I have 400 to 500 pounds of comb honey.

AMERICAN BEE JOURNAL
ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

Your Full Address, plainly written, is very essential in order to avoid mistakes.

If You Live near one post-office and get your mail at another, be sure to give the address that we have on our list.

Give a Copy of "Honey as Food and Medicine" to every one who buys a package of honey. It will sell lots of it.

Dr. Miller's Book, "A Year Among the Bees," and the AMERICAN BEE JOURNAL for one year—we send both for $1.50.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

New Subscribers can obtain the full numbers for 1888 and 1889 for $1.80, if application be made at once, before all the sets of 1888 are gone.

Paper Boxes—to hold a section of honey for retail dealers. We have two sizes on hand to carry sections 4¼x4¼ and 5¼x5¼. Price, $1.00 per 100, or $8.50 per 1,000.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Pure Phenol for Foul Brood.—Calvert's No. 1 phenol, mentioned in Cheshire's pamphlet on pages 16 and 17, can be procured at this office at 25 cents per ounce. Not being mailable, it must go by express.

In order to pay you for getting *new subscribers* to send with your renewal, we make you this offer. For each yearly subscriber, with $1.00, you may order 25 cents worth of any books or supplies that we have for sale—as a **premium.**

A Home Market for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

Triple-Lense Magnifiers for the inspection of bees, insects, etc. They are invaluable in the conservatory, or if for only a very few plants. For boys and girls, they make very pleasant studies, and arouses in them a laudable enthusiasm for investigation. Price, by mail, 80 cents; or the AMERICAN BEE JOURNAL for one year, and the Magnifier, for $1.50.

Hastings' Perfection Feeder.—This excellent Feeder will hold a quart, and the letting down of the feed is regulated by a thumb-screw. The cap screws securely on. It is easy to regulate—either a spoonful or a quart—and that amount can be given in an hour or a day, as desired. By it the food can be given where it is most needed—just over the cluster. Not a drop need be lost, and no robber bees can get at it. A single one can be had for 40 cents, or a dozen for $3.50, and it can be obtained at this office. Postage 10 cents extra.

International Bee-Convention.—The Pamphlet Report of the Columbus, Ohio, Bee-Convention can be obtained at this office, by mail, postpaid, for 25 cents. This pamphlet contains the new bee-songs and words, as well as a portrait of the President. Bound up with the history of the International Society, and a full report of the Detroit, Indianapolis and Chicago conventions, for 50 cents, postpaid.

Send Us the Names of bee-keepers in your neighborhood who should take and read the AMERICAN BEE JOURNAL, and we will send them a sample copy. In this way we may obtain many regular subscribers, for thousands have never seen a copy, or even know of its existence. This is one way to help the cause along.

Many Good Advertisers invite our readers to send for their descriptive Circulars, etc. It will pay to get these, and see what is for sale, by whom, at what prices, and what things are offered. Every one can learn something in this way. Please always tell advertisers *where* you saw their cards; they like to know, and we like to have them.

Prang's National Flower is the title of a beautiful pamphlet which contains two colored plates of the two most popular candidates for selection as the National Flower of America. It also has two poems, and a postal card addressed to Messrs. L. Prang & Co., Boston, Mass., with a vote to be filled up for the selection of a National flower. The pamphlet costs 25 cents, and can be obtained at this office.

Queens.—We can supply Tested Italian Queens at $1.50 each; Untested, $1.00 each, by mail, postpaid.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	1 75	1 65
Bee-Keepers' Advance	1 50	1 40
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers	5 65	5 00
and Langstroth Revised (Dadant)	3 00	2 75
Cook's Manual (**old edition**)	2 25	2 00
Doolittle on Queen-Rearing	2 00	1 75
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

Do not send to us for sample copies of any other papers. Send for such to the publishers of the papers you want.

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2.25
500 Labels	2.00	3.00	3.50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

Money in Potatoes, by Mr. Joseph Greiner. Price, **25** cents, postpaid. This is a complete instructor for the practical potato-grower, and explains the author's new system in 40 interesting lessons. It is for sale at this office.

A Modern Bee-Farm and its Economic Management, by S. Simmins, of Rottingdean, Brighton, England, is the title of a new book of about 200 pages, printed on excellent paper, and nicely bound in cloth. Price $1.00. For sale at this office.

Cheap Extracted Honey.—We have a keg of DARK HONEY, weighing 164 pounds, net, suitable for feeding to bees, which we will sell at **6 cents** per pound, delivered on the cars here.

Honey and Beeswax Market.

NEW YORK.

HONEY.—New extracted sells as fast as it arrives. Orange blossom, 7¼@7½c.; inferior Southern, 70@75 cts. per gallon. Some demand for the comb, but we have no stock yet.
July 22. F. G. STROHMEYER & CO., 122 Water St.

MILWAUKEE.

HONEY.—Old crop nearly gone, and new begins to appear, the quality being fine. We quote: New white 1-lbs., 15@16c. Extracted, white, in barrels and kegs, 7@8c.; in tin and pails, 7½@8½c.
BEESWAX.—23@28c.
July 16. A. V. BISHOP, 142 W. Water St.

KANSAS CITY.

HONEY.—Old crop all gone. New 1-lbs., 16@18c.; 2-lbs., 14c. No California comb in the market. Extracted, white, 9c.; amber, 7@8c
July 17. HAMBLIN & BEARSS, 514 Walnut St.

CHICAGO.

HONEY.—New crop is appearing, and prices range from 15@17c. An active market is not looked for till later. Extracted, new crop, 7@8c. Very light receipts, and few sales.
BEESWAX.—25c. R. A. BURNETT.
July 11. 161 South Water St.

CHICAGO.

HONEY.—Old crop of 1 and 2 pound white clover honey exhausted, but considerable 1-lb. buckwheat is being offered. Our first receipts of new 1-pound white clover were in this week, and is selling at 14@15c.; dark 1-lbs., old, 10@11c. Extracted, dull, 6@8c.
BEESWAX.—25c.
July 11. S. T. FISH & CO., 189 S. Water St.

DETROIT.

HONEY.—New crop is coming in slowly, and sells at 14@15c. for comb. No desirable old stock left.
BEESWAX.—24@25c.
July 24. M. H. HUNT, Bell Branch, Mich.

KANSAS CITY.

HONEY.—New white comb in 1-lb. sections sells at 16@17c. White extracted, 7@7½c.; dark, in barrels, 6c. An active demand is not expected before Sept. 1. No new extracted in the market.
BEESWAX.—None in the market.
July 20. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—Extracted, bright, 6¼c; dark, 5½c. The market is slow.
BEESWAX.—Scarce at 23c. for prime.
July 20. D. G. TUTT & CO., Commercial St.

NEW YORK.

HONEY.—Market for extracted is quite active. Orange blossom, fine quality, sells readily at from 7@7½c. Off grades of Southern find quick sales at 60@70c. per gallon. No new California honey on this market. Extracted would bring from 7½@8c.—Too early to quote prices on new comb.
BEESWAX.—Dull and declining—25@25½c., good yellow.
HILDRETH BROS. & SEGELKEN,
July 22. 28 & 30 W. Broadway, near Duane St.

BOSTON.

HONEY.—Not a case of comb honey in our store—something unknown for a long time. Expecting the new crop this week. Price will be about 18c. We have some very fine new extracted white clover, which sells at 8@9c.
BEESWAX.—24@25c.
July 22. BLAKE & RIPLEY, 57 Chatham Street.

CINCINNATI.

HONEY.—We quote extracted at 5@8c. per lb., and 12@15c. for fair to choice comb. Demand slow, and arrivals are fair of the new crop.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
July 22 C. F. MUTH & SON, Freeman & Central Av.

Advertisements.

The Hive and Honey-Bee, and Dadant's Foundation. See advertisement in another column.

DR. TINKER'S

Queen - Rearing Chamber!

THE only practical invention for rearing and securing the mating of a number of Queens and getting them all laying at once in full colonies of bees. It does away with Nuclei at all seasons, and also with laying workers. Patented July 16, 1889.
For full particulars address, with stamp,
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Mention the American Bee Journal.

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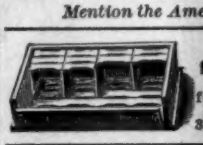
SECTIONS! SECTIONS! SECTIONS!

WE are now offering our No. 1 V-Groove Sections in lots of 500, at $3 per 1,000; No. 2 Sections at $2 per 1,000. For prices on Foundation, Hives, Shipping-Crates, &c., &c., send for Price-List. Address,
J. STAUFFER & SONS,
(Successors to B. J. Miller & Co.)
31Atf NAPPANEE, IND.
Mention the American Bee Journal.

My 21st Annual Price-List of Italian, Cyprian and Holy-Land Bees, Queens and Nuclei Colonies (a specialty): also Supplies—will be sent to all who send their names and addresses.
H. H. BROWN,
17Dtf LIGHT STREET, Columbia Co., PA.
Mention the American Bee Journal.



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SECTION-CASE.
BEES AND QUEENS. Send for free catalogue. Address
FRANK A. EATON,
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SEND $1 for a Choice Untested Carniolan Queen. Send Registered Letter or Express Money Order. A. EASTMAN,
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A POSITIVE FACT!

Queens by Return Mail!
From the Old and Reliable
KNICKERBOCKER BEE-FARM
(Established 1880.)
☞ Circular and Price-List Free.
G. H. KNICKERBOCKER,
27Dtf Box 41 PINE PLAINS, Duch. Co., N. Y.
Mention the American Bee Journal.

Barnes' Foot-Power Machinery.

Read what J. I. PARENT, of CHARLTON, N. Y., says—"We cut with one of your Combined Machines, last winter 50 chaff hives with 7-in. cap, 100 honey-racks, 500 broad frames, 2,000 honey-boxes and a great deal of other work. This winter we have double the amount of beehives, etc., to make and we expect to do it with this Saw. It will do all you say it will." Catalogue and Price-List Free. Address, W. F. & JOHN BARNES,
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ITALIAN and CARNIOLAN QUEENS.

PRICES LOW: 30 years' experience in Rearing Queens. Circular free.
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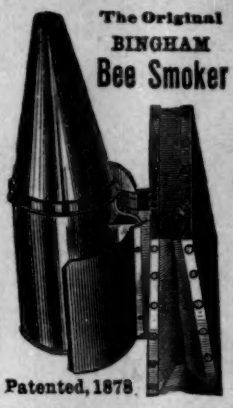

The Original
BINGHAM
Bee Smoker
Patented, 1878.

AUSTIN, TEX., April 24, 1889.—The Goods came through in good order. We are glad that we can show our customers a full line of solid comfort. Fraternally,
J. W. TAYLOR.

FARINA, March 23, 1889. — Those who see me use one of your Smokers, cannot be persuaded to buy any other, as they stand the test and do the work every time.
Respectfully,
M. D. HEWITT.

Bingham & Hetherington Uncapping Knife.

Patented May 20, 1879.

BINGHAM SMOKERS and Bingham & Hetherington KNIVES have Revolutionized the Smoker and Knife Trade, and have made Bee-Keeping both a Pleasure and a Success. These Goods have been used years without complaint. The Smokers are the only stove-wood, clear-smoke Bee-Smokers. No giving out. No fussing. No going out. No vexation. Descriptive Circular sent on receipt of Request Card.

Prices, by Mail, Postpaid.

Doctor Smoker (wide shield)	3½ inch		$2 00
Conqueror Smoker (wide shield)	3	"	1 75
Large Smoker (wide shield)	2½	"	1 50
Extra Smoker (wide shield)	2	"	1 25
Plain Smoker	2	"	1 00
Little Wonder Smoker	1¾	"	65
Bingham & Hetherington Honey-Knife,	2 inch		1 15

☞ TO SELL AGAIN, apply for dozen or half-dozen rates. Address,
BINGHAM & HETHERINGTON,
27C2t ABRONIA, Allegan Co., MICH.
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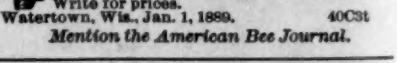
CARNIOLAN QUEENS

A SPECIALTY. Largest and Purest Carniolan Apiary in America.
☞ Send for Descriptive Circular and Price-List. Address,
ANDREWS & LOCKHART,
9Ctf PATTEN'S MILLS, Wash. Co., N. Y.
Mention the American Bee Journal.

J. FORNCROOK & CO.,

MANUFACTURERS OF THE

"BOSS" ONE-PIECE SECTIONS,



Patented June 28, 1881.

WILL furnish you, the coming season, ONE PIECE SECTIONS as cheap as the cheapest.
☞ Write for prices.
Watertown, Wis., Jan. 1, 1889. 40C3t
Mention the American Bee Journal.

BEE-KEEPERS' SUPPLIES.

HIVES, Sections, Foundation, Smokers, Frames, Crates, &c., furnished at greatly reduced rates. Also ITALIAN BEES and QUEENS at very low prices. Send for my Catalogue. Address,
A. F. STAUFFER,
29Ctf STERLING, ILLINOIS.
Mention the American Bee Journal.